The School District of Philadelphia
Germantown High School
Promise Academy Lesson Plan

Week of:	**10/03/11**				
Name:	**Brian Rost**				
Class:	**Algebra 1**	**1st, 11th**			
	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
Notes/Concerns:	·Students may not be proficient with fractions to decimal conversion. ·Students may not be proficient with division. · Graphing Calculators are unavailable.	· Smartboard applications would benefit students learning. · A Projector/Screen would benefit students learning.	· Smartboard applications would benefit students learning.		
Objective (Must be measurable) (Purpose)- The purpose of the lesson and why it is important for the students to learn. Objective(s) should be at the mastery level and aligned with Eligible Content. *Does my objective tell the "what" and "why" and is it at the mastery level? Did I utilize Eligible Content?* ***Reminder: Clearly communicate and Introduce the Objectives to Students.***	· SWBAT classify the set of real numbers using a Venn Diagram. · SWBAT order real numbers on a number line and use inequality symbols in mathematical statements. · SWBAT define Absolute Value using a number line or provide an example of a real-world use of AV.	· SWBAT use **Algebraic Tiles (AT)** to simulate Addition and Subtraction from problems in the textbook. · SWBAT explain the rules for adding and subtracting numbers with "like" and "unlike" signs.	· SWBAT identify different terms, combine "like terms" to simplify the expression. · SWBAT identify and define the new vocabulary: terms, coefficient, "like terms" and "simplified". · SWBAT be able to visualize the simplification process with AT.	· SWBAT achieve an 80% or better mastery on a quiz. · SWBAT multiply and divide with "like" and "unlike" signs. · SW be familiar with new terminology: Identify Property for Multiplication, Multiplicative Inverse Property, Reciprocals, and the Properties of Zero.	· SW be proficient with building AT for a variety of problems.
Preview the Lesson (DO NOW/Jump Start) Anticipatory Set (Focus)- A short activity or prompt that focuses the students' attention before the actual lesson begins.	If you left your residence and walked 100ft to the left on Monday and on Tuesday you walked 100ft to the right. What was the distance you traveled on both days?	If you borrow 3 dollar and borrow another 5 dollars how much money do you owe? If you borrow 3 dollars and someone owes you 5 dollars, how much money will you have when debts are settled?	Observe the basket of fruit, place the fruit in individual categories.	Solve in the lowest terms: $\frac{1}{3}+\frac{5}{7}=¿$ Show all your work.	Solve in the lowest terms: $(\frac{1}{3}+\frac{5}{7})x=¿$ Show all your work.

Standards/Eligible Content **(Refer to PST/CTE Guidelines)**					
(Direct Instruction/Explicit Teaching) The teacher will explicitly teach the vocabulary, skills, and concepts that are necessary for the students to meet the objective. ***Did I include explicit teaching steps for the vocabulary, skills and concepts?*** ***Reminder: Did I include how I will model the skills, strategies and activities? Modeling (Show Me)- The teacher demonstrates the skills, strategies and activities for students related to the objective.***	·Create a Venn Diagram and explain how that the inside box does not include what outside it, but the outside boxes include everything inside its borders. On the board I will display the vast choice of numbers and asked the students to decide where the number should reside in the Venn Diagram. I will placed the numbers in the Venn Diagram and define their classifications. I will asked the students to provide other examples. I will present a number line with all the classifications and segue into the lesson of ordering numbers using inequality symbols $<$ $\leq$ $>$ $\geq$. ·The Do Now was an example of Absolute Value in Real-life applications. I will compare the DN with a number line and show the distance as the definition for AV; introduce the symbol |x| some number.	Demonstrate the use of Algebraic Tiles and then compare them to loaning and borrowing money. So if you borrow a dollar and you owe a dollar how much do you really have? AT is the same concept. If we have a blue+yellow tile they cancel themselves out -the value of the set is zero. Each blue tile is worth 1 and each yellow tile is worth -1. Draw a representation on the board and asked the students what the value is or mathematical expression is. In addition draw a secondary representation of a number line example. · Have students open their books to the Rules for Addition/Subtraction. Read them out loud.	·Write and expression on the board, identify the terms and different terms. Make sure the student understand the expression, asked them to read it out loud. 3X+4 "*Three times the variable x plus the constant 4*". The students may inadvertently relate the word constant to the constant difference, which should be called the common difference because of this ambiguity. I will create the expression using (apples/oranges), then I will create a **graphical organizer (GO**) (Table) with the header (apples & oranges), then next to the apples I will assign it as all terms with the variable x. I will assign the oranges to the constant terms. I will simplified the **GO** with the x variable and constant term only. I will show how to simplify the expression after we combined all like values. · After all this I will show how AT are used in the process.	·Have the students open their textbooks to Pg 74-76. Read together the Rules for Multiplication of Signed Numbers. Discuss. Read together the Rules for Division of Signed Numbers. Discuss the negative sign on fractions and the most suggested form of a negative fraction. Demonstrate variations of multiple numbers multiplied to each other (-2)(-6)(5)(-4)(-10). Make sure the students do not make the negative sign into a minus sign by removing the brackets. Demonstrate variations of multiple numbers divided to each other $-(\frac{1}{3})(\frac{-5}{7})(\frac{9}{-11})$. Make sure they account for all the negative signs by counting them, Odd number of signs means a negative answer. · Introduce Identify Property for Multiplication, Multiplicative Inverse Property, Reciprocals, and the Properties of Zero.	Class Project: Students will be instructed to build an algebraic Tile Expression, simplify it and show as many representations that they remember from the weeks lesson.

Guided Practice (What teacher & student will do together) **(Follow Me)- The teacher leads the students in applying the skills and strategies. Multiple strategies are used to engage the students. This is where differentiation occurs. *Will these activities be effective in helping the students apply the skills and strategies?***	·Pg. 58 Holt, Perform a selection of problems 4-19. ·Create another Venn Diagram. Asked the students to decide where the number should reside. ·I will present a number line and asked the students to help me ordered them properly and then write mathematical statements using inequality symbols $< \leq > \geq$.	Pg. 64 & 70 Holt, Guided Skills Practice, Perform a selection of problems.	Pg. 64 & 70 Holt, Guided Skills Practice, Perform a selection of problems.	Pg. 77 Holt, Guided Skills Practice, Perform a selection of problems.	Remember to look at your notes.
Checking for understanding (Must be throughout the lesson) **The teacher uses a variety of questioning strategies to determine if students have mastered the skills and if he/she should re-teach and/or enrich. *What kinds of questions will help me check for understanding?***	·Use "thumbs up" cuing to ensure students are attentive. ·Walked about the room to see their work. ·Question students randomly.	Have students work with AT; in their notebooks have students write the equivalent mathematical expression & draw the representation using plus + & minus – signs.	I will use my personal student whiteboards and asked students to simplify then hold them up until everyone is completed simplifying the expression.	Question them regarding an even number versus and odd number of negative signs.	Watch about the room and see the teams progress.
Differentiation/ Accommodations Small group instruction objective	Allows students to asked their nearby classmates for assistance.	Explain the Rules for Addition/Subtraction in layman's terms because students may not yet fully comprehend or remember AV.	Use other graphical representations of expression of different terms, just like the Do Now. The number of Apples may represent the coefficient of the x's.	· Have students worked in pairs, count the signs and then compare with each other on examples. · Have students make their own crazy numbers and have their teammate solve it.	3-members to each team.
Independent Practice (What student	Pg. 58 Holt, Practice & Apply a selection of problems.	Pg. 56 & 71 Holt, Practice & Apply a selection of problems.	Pg. 92 Holt, Practice & Apply a selection of problems.	Pg. 79 Holt, Practice & Apply a selection of problems.	Each student will write a reflection upon completion.

do independently/ Activity) The teacher releases students to practice the skills and/or demonstrate what they have learned. *Will these independent activities be effective in helping the students apply the skills and strategies?*					
Closure- The teacher sums up the lesson and makes connections to the objective. Rigorous and relevant homework is assigned that allows students to practice the skill/strategy independently. *Does my closing activity check for understanding and relate to the objective?*	It is important to understand the classifications of numbers. There are a number of assessment tests that require knowledge of classifications. It is also important to be able to order numbers appropriately. In the next lesson we will understand why AV is so important to Adding/subtracting.	What we are seeing in Algebra is a methodological and rule based process to perform operations. We are also seeing how to represent operations in difference forms. This leads us to believe there are multiples ways to solve problems, you will learn them through the year.	Yesterday we added & subtracted constant terms, today we introduced adding & subtraction "like terms". It is important to classify them properly otherwise their will be errors. Initially we will use a graphical organizer to separate like terms and then combine them in a simplified form.	How important are negative signs when dealing with money? Do you want to make a mistake with your money?	Congratulations you have worked hard this week. You refreshed your knowledge of mathematical operations, learn new terms and represented algebraic problems in multiple ways. I implore you to consider multiple ways to solve problems before you begin solving them.
Exit Ticket (PSSA Related Activity/Open ended-question)	How can you use AV in your daily life?	What real-world example can apply this process: Sports, finance, Time, etc.	It is easier to count coins that are sorted or in a messy pile & why?	What sign is $-(\frac{-1}{3})(\frac{5}{-7})(-9)$?	What was the most interesting topic you leaned this week in Algebra.
HOMEWORK *Is my homework rigorous and relevant?*	Pg. 59 #33-63 ODD	Pg. 65#19-31 1st Column & Pg. 71 #16-44 1st Column	Pg. 92#21-39 1st Column	Pg. 78 #18-56 1st Column	Review Notes
Assessment (s) (Must NOT take the entire period)				Quiz on previous lessons.	

Attachments:

- Copy of weekly assessment
- Handouts /Graphic Organizers
- Student Objective Tracking/Weekly Work List
- Guided Groups Materials
- DOK Questions

(Provide Documents as to cite evidence of preparation)

	1st Period 7:30-8:25	4th Period 10:09-11:06	11th Period 2:39-3:34	Procedures
Do Now ~7 min	**7:30**-7:37	**10:09**-10:16	**2:39**-2:47	Pick up folders & yellow notepad
Direct Instruction ~15 min	7:38-7:53	10:17-10:32	2:48-3:03	
Guided Practice ~10 min	7:54-8:04	10:33-10:43	3:04-3:14	
Independent Practice ~10 min	8:05-8:15	10:44-10:54	3:15-3:25	
Closure ~3 min	8:16-8:19	10:55-10:58	3:26-3:29	

Exit Ticket ~5 min	8:20-**8:25**	10:59-**11:06**	3:29-**3:34**	Store yellow notepad in designated bin.